

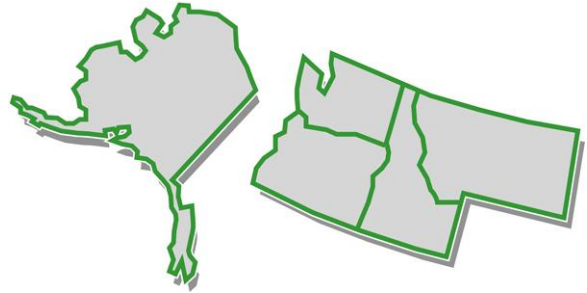


U.S. DEPARTMENT OF ENERGY

Northwest Clean Energy Application Center

WHO WE ARE

The Northwest Clean Energy Application Center (NW CEAC) is one of eight regional centers in partnership with the Department of Energy's Industrial Technologies Program <http://www1.eere.energy.gov/industry/> and also partners with the other regional Clean Energy Application Centers.



The NW CEAC covers the states of Alaska, Idaho, Montana, Oregon and Washington. Its headquarters is in Olympia, WA, and is part of the [Washington State University \(WSU\) Extension Energy Program](#).

The Northwest Clean Energy Application Center focuses on the following technology areas: combined heat and power (CHP), waste heat recovery, anaerobic digestion, and district energy.

WHAT WE DO

- **Policy Analysis**
We inform state legislation and regulation relating to clean energy. We provide technical expertise, policy support, and information to policymakers, industry, and the public.
- **Project Support**
We are a source of independent information for potential clean energy adopters. Our services include project troubleshooting, referrals to local resources, various types of analyses (such as financial, regulatory, spark spread, and policy), and other types of technical support.
- **Education and Outreach**
We engage with stakeholders, allies, potential end-users, and others with an interest in clean energy. We organize presentations, workshops, webinars, and other forms of outreach.

REGIONAL PARTNERS

- U.S. Department of Energy Industrial Technologies Program
<http://www1.eere.energy.gov/industry/>
- Center Leadership: Washington State University Extension Energy Program
- Alaska Energy Authority
- Cascade Power
- Idaho Office of Energy Resources
- Montana Dept. of Environmental Quality
- Oregon Department of Energy

STRENGTHS AND AREAS OF FOCUS

- Technical project support
- Policy analysis and incentives development
- Technical reports and project profiles
- Outreach, workshops, and presentations
- Stimulus funding opportunities
- Target markets with data analysis
- Software tools – *RelCost* Financial

TARGET MARKETS

Forest Products



Pulp and Paper Mills



Food Processors



Farm Energy/Dairies



*(Source: State of Washington Clean Energy Opportunity: Technical Market Potential for CHP – August 2010)

Industry	Update of the ORNL 2004 study (MW)
Petroleum Refineries	672
Pulp and Paper	225
Waste Heat to Power	235 (new category)
Wood Products/Forest Products	268
Dairy Digesters with co-digestion	88.8 (new category)
Landfill Gas (LFG) with CHP, high solids digesters – compost facilities, other opportunity fuels	20 (new category)
Food Processing	534
Textile Mill Products	37
Furniture and Fixtures	8
Chemicals	292
Rubber and Plastic	45
Primary Metals	335
Fabricated Metals	46
Machinery	40
Transportation Equipment	202
Instruments	36
Miscellaneous Manufacturing	40
TOTALS	3123.8

Forest Products The wood/forest products industry produces construction and building materials. Companies in this industry cut timber and pulpwood (mill raw materials) into lumber and building materials, and manufacture finished articles, such as wood panels. A recent trend has been the increase in lumber mills that use biomass boilers for generating electricity in addition to producing steam for mill operators and on-site lumber kilns.

Pulp and Paper Mills Pulp and paper mills are classic opportunities for clean heat and power. They are energy-intensive and a highly cost-competitive industry. It is critical that they recover as much energy as possible to save money. Wood waste and chemical recovery boilers produce steam to run the mills. Steam turbine power generation is a natural bonus.

Food processors Year-round food processors are excellent candidates for CHP and anaerobic digestion. Foods processed in the Northwest include potatoes, sugar beets, onions, fruits and row crops. Food processing requires both steam and power, and has high organic content liquid waste streams suitable for anaerobic digestion.

Farm Energy/Dairies Dairies, irrigated and dry land agriculture each have distinct energy use profiles and opportunities. For dairies, anaerobic digestion systems replace lagoons, and energy efficiency opportunities are found in the milking parlor and crop production. CHP, co-digestion, and nutrient recovery provide a viable and economically valuable alternative to lagoons, providing heat for the digester with an opportunity to sell excess power and nutrients, as well as receive tipping fees. Dryland and irrigated agriculture also have energy efficiency opportunities.



NORTHWEST CLEAN ENERGY APPLICATION CENTER

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